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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,510	12/05/2003	Kazuhisa Fukushima	032094	7859

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EXAMINER	
GOLDBERG, JEANINE ANNE	
ART UNIT	PAPER NUMBER
1634	
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01/12/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Advisory Action Before the Filing of an Appeal Brief	Application No.	Applicant(s)	
	10/727,510	FUKUSHIMA ET AL.	
	Examiner	Art Unit	
	JEANINE A. GOLDBERG	1634	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 11 December 2008 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

a) ☐ The period for reply expires _____months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☒ The Notice of Appeal was filed on *12/11/08*. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: See *Continuation Sheet*. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: *NONE*.
   Claim(s) objected to: *NONE*.
   Claim(s) rejected: *2-5 and 7*.
   Claim(s) withdrawn from consideration: *NONE*.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.

12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____

13. ☐ Other: _____.

/Jeanine A Goldberg/
Primary Examiner, Art Unit 1634

Continuation of 3. NOTE: Claim 7 has been amended to require the hybridization of the target biopolymers and the probe biopolymers prior to the capturing of the linkes fixed to the beads on the solid support. Previously the claims did not require this sequential binding. .

Continuation of 11. does NOT place the application in condition for allowance because: With respect to the new matter rejection, the response provides extensive discussion as to where "beads each include one of a plurality of beads-ID and ….each of said beads-ID recognizing address linkers is specific to one of said plurality of beads-ID." The response asserts that the specification provides sufficient support even if the feature is not described in ipsis verbis. The response cites three passages to support their position. First, the response points to page 3, lines 4-6. The response adds significant analysis of the passage which was not present in the instant specification, which although is logical, does not appear to have been contemplated in the instant specification. The response, in particular appears to focus on "the invention cleverly overcomes these problems by enabling identification using the antigen-antibody reaction of proteinS located on the beads and the array." This use of plural proteins does not suggest different proteins but merely many of the same protein.
Second, the response cites page 3, lines 23-25 which states "address linker 3 (address-judging antigen or address-judging antibody) for recognizing specific beads number ID is fixed on the surface of beads 1". It is noted that linker is singular, and thus multiple linkers are not considered. The examiner agrees the passage means that the linker on the bead is specific for the protein on the surface, but again, this does not suggest more than one different linker and different addressing probe protein on the support. The "pulling down" taught by response, is directed to immobilizing the beads on the substrate. There is no support that there is any sorting. Instead, the beads are specifically pulled down onto a protein at an address. There is no discussion in the specification that the addresses are different.
Third, the response states it would be illogical to take the position asserted by the office based upon the words recognizing and address-judging. This argument has been reviewed but is not persuasive. The specification does not provide any indication of what judging or recognizing encompass. The plain language of the passage appears to state that the linker is for recognizing specific beads number ID fixed on the surface of the beads. The use of the linker (3) as illustrated in the Figures would be specifically recognized and "pulled" down. This does not support the interpretation by the response that there is a plurality of different linkers specific to a plurality of different address probes on the surface. So judging means just recognize the bead is there. The linker is a way to get the bead on the support, at an address which includes recognizing the linker binding partner and then the nucleic acid can be judged. Once in place at an address the nucleic acids may be judged.
Fourth, Figure 2A and 2B appear to illustrate all of the addressing probe protein sites are the same. Each of the linkers (3) are illustrated as a rectangle. All of the addressing probe protein sites are able to bind to this linker. Applicant is focusing on the DNA binding, which is not in question, the issue is whether the substrate comprises different probe protein sites and the beads comprise different linkers. Thus, the question of what DNA binds is not essential to the instant question. The specification, page 3, last lines, specifically provides that Figure 2 indicates a plan. On page 4, the address protein 12 for recognizing beads 1 ID by capturing ID recognizing address linkers 3 located on the surfaces of beads 1 is fixed on sites 11 in advance. Here, there is not use of plural proteins, thus suggesting only one protein located in several addresses. Again, "address linker 3 is bonded to addressing probe protein 12 through antigen- antibody reaction" suggests there is one protein and one linker, as opposed to applicants arguments directed to a plurality of different linkers and probe proteins. Figure 1 shows the beads and they all have address linker (3). While multiple beads are placed in the reservoir, all of these beads are identical. There is no illustrates of multiples or plurality of different beads in the solution. The beads from Figure 1 are then poured on the substrate and bound to the addressing probe protein. All of these probe proteins bind a bead from Figure 1, thus they all bind the same linker. Whether the DNA bound is what is illustrated in Figure 2B which again is not the question at issue.

Thus, the specification does not appear to teach a) that the beads in the population have one of a plurality of beads-ID or b) that the linkers on the support are specific to one of the plurality of beads-ID. This requires that there is more than one type of linker and more than one type of probe on the support to identify such linker. This concept is not found in the instant specification.

With respect to the 103 rejections, the response asserts that page 6, lines 13-15 does not support the use of beads or different proteins. This argument has been reviewed and deemend not persuassive. The single passage, as noted by the response, does not state the use of beads. However, when read in light of page 8 of the specification, the nucleic acid molecules may be attached to beads, as shown in Figure 2. Thus, page 6 would be read to mean the arrays may comprise protein molecules immobilized on the solid surface (multiple proteins), the proteins being conjugated with or otherwise bound (i.e. through a microsphere) to a short polynucleotide molecule may be interrogated, to addres the array. Thus, while the response correctly provides one interpretation of the passage incluing the situation wehre polynucleotides are bound to avidin, in light of the teachings in Balasubramanina as a whole which teach target molecules are bound to micorspheres, the protein molecules may be conjugated or otherwise bound to the polynucleotide to be interrogated, to address the array.
With respect to applicants discussion regarding page 8, lines 10-11, although this does not specifically recite beads, again, the reference teaches that the target molecules may be immobilized onto micospheres.

The response states that pages 10-122 while discussing incorporated onto a beaded support or reaction product, the reference only includes the synthesized polynucleotide which potentially binds to the known polynucleotide on the array. This reading is narrower than suggested by Baasubramanina. The passage clearly teaches different populations of beads and spatially addressing them on an array. While the example is directed to the polynucleotides which hybridize on the array, based upon the passages previously, it would have been clear polypeptides or protein molecules may be immobilized on the array to allow interogation (see page 6, lines 13-15).

The response does not appear to discuss, spatially addressable is used to describe how different molecules may be identified on the basis of their position on an array (see page 10, lines 16-18).

In response to applicant's arguments against the references individually, one cannot show nonobviousness

by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The response does not specifically address Chee '394. Chee Figure 1F cearly illustrates three sites on a solid support that have different ligands. The ligands are specific to each of the pairs i.e. 70/70', 71/71' and 72/72'. Thus, in view of Chee, antigens may be used for binding on a spatially addressable array for positional decoding.

With respect to the rejection of Claim 3, the response does not specifically argue Claim 3, thus the rejection is maintained for at least the resasons above.